

Amendments to the Claims:

1. (Cancelled)
2. (Currently Amended) The lens driving apparatus as set forth in Claim 4 3 wherein said lens holder comprises multiple lens holders, each holding a lens, are a lens and arranged in the optical axial direction wherein said switching mechanism is provided to each of said multiple lens holders.
3. (Currently Amended) ~~The A lens driving apparatus as set forth in Claim 1~~ comprising:
a lens holder holding a lens; and
driving means for providing linear motion to the lens holder along an optical axis of the lens;
said driving means further comprising:
an electromagnetic mechanism, provided at the outer circumference of the lens holder in an enclosing manner for generating a torque around the optical axis; and
a switching mechanism for switching the torque generated by the electromagnetic mechanism to a linear driving force along the optical axis so as to linearly move the lens holder;
wherein said electromagnetic mechanism comprises:
a rotor having a ring-like magnet whose outer circumference is magnetized in a circumferential direction; and
a stator, provided with multiple magnetic poles facing the outer circumference of the ring-like magnet.
4. (Original) The lens driving apparatus as set forth in Claim 3 wherein
said lens driving apparatus further comprises supporting means for rotatably supporting said rotor around the optical axis while limiting the linear motion of said lens holder along said optical axis;
wherein said switching mechanism further comprises:
a guiding channel provided on one of said lens holder's outer circumference and said rotor's inner circumference; and

an engagement means, which is held at the other of said lens holder's outer circumference and said rotor's inner circumference, being inserted into said guiding channel to provide relative linear motion to said lens holder in the optical axial direction along said guiding channel as said rotor rotates.

5. (Currently Amended) The lens driving apparatus as set forth in Claim 4 wherein:
said lens holder comprises a plurality of lens holders, each holding a lens; and
said [[a]] plurality of said lens holders holding said lenses are arranged in the optical
axial direction and said switching mechanism is provided for each of said lens holders.

6. (Original) The lens driving apparatus as set forth in Claim 5 wherein said switching mechanisms corresponding to different lens holders are given guiding channels of different patterns.

7. (Original) The lens driving apparatus as set forth in Claim 3 wherein said rotor is integrally formed with said lens holder; wherein said switching mechanism further comprises:
a guiding channel provided on one of said lens holder's outer circumference and said rotor's inner circumference; and

an engagement means, which is held at the other of said lens holder's outer circumference and said rotor's inner circumference, being inserted into said guiding channel to provide a relative linear motion to said lens holder in the optical axial direction along said guiding channel as said rotor rotates.

8. (Original) The lens driving apparatus as set forth in Claim 4 wherein said engagement means is spherical and is rotatably held by the surface not selected previously for said guiding channel.

9 – 21. (Cancelled)

22. (New) A lens driving apparatus comprising:
a lens holder holding a lens; and

a driving mechanism for providing linear motion to the lens holder along an optical axis of the lens;

said driving mechanism further comprising:

an electromagnetic mechanism, provided at the outer circumference of the lens holder in an enclosing manner for generating a torque around the optical axis; and

a switching mechanism for switching the torque generated by the electromagnetic mechanism to a linear driving force along the optical axis so as to linearly move the lens holder.

wherein said electromagnetic mechanism comprises:

a rotor having a ring-like magnet whose outer circumference is magnetized in a circumferential direction; and

a stator, provided with multiple magnetic poles facing the outer circumference of the ring-like magnet.

23. (New) The lens driving apparatus as set forth in Claim 22 wherein said lens holder comprises multiple lens holders, each holding a lens and arranged in the optical axial direction wherein said switching mechanism is provided to each of said multiple lens holders.

24. (New) The lens driving apparatus as set forth in Claim 22 wherein said lens driving apparatus further comprises a supporting device for rotatably supporting said rotor around the optical axis while limiting the linear motion of said lens holder along said optical axis;

wherein said switching mechanism further comprises:

a guiding channel provided on one of said lens holder's outer circumference and said rotor's inner circumference; and

an engagement element, which is held at the other of said lens holder's outer circumference and said rotor's inner circumference, being inserted into said guiding channel to provide relative linear motion to said lens holder in the optical axial direction along said guiding channel as said rotor rotates.

25. (New) The lens driving apparatus as set forth in Claim 24 wherein:
said lens holder comprises a plurality of lens holders, each holding a lens; and

said plurality of said lens holders holding said lenses are arranged in the optical axial direction and said switching mechanism is provided for each of said lens holders.

26. (New) The lens driving apparatus as set forth in Claim 25 wherein said switching mechanisms corresponding to different lens holders are given guiding channels of different patterns.

27. (New) The lens driving apparatus as set forth in Claim 22 wherein said rotor is integrally formed with said lens holder; wherein said switching mechanism further comprises:

a guiding channel provided on one of said lens holder's outer circumference and said rotor's inner circumference; and

an engagement element, which is held at the other of said lens holder's outer circumference and said rotor's inner circumference, being inserted into said guiding channel to provide a relative linear motion to said lens holder in the optical axial direction along said guiding channel as said rotor rotates.

28. (New) The lens driving apparatus as set forth in Claim 24 wherein said engagement element is spherical and is rotatably held by the surface not selected previously for said guiding channel.